

SIMATIC DP, ET 200eco PN, F-DI 8x24V /F-DQ 3x24V 2A , M12
 PROFIsafe, up to PL E (ISO 13849), up to SIL 3 (IEC 61508),
 protection IP65/67



General information

Firmware version	
<ul style="list-style-type: none"> FW update possible 	Yes
Vendor identification (VendorID)	02AH
Device identifier (DeviceID)	0306H
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V15 with HSP 204
Operating mode	
<ul style="list-style-type: none"> DI DQ 	Yes Yes
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Load voltage 1L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V

• Reverse polarity protection	Yes
Load voltage 2L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
Current consumption, typ.	200 mA
from supply voltage 1L+, max.	4 A
from load voltage 2L+, max.	4 A
Encoder supply	
Number of outputs	2
24 V encoder supply	
• Short-circuit protection	Yes; Electronic
• Output current, max.	300 mA; per output
Power loss	
Power loss, typ.	9 W
Digital inputs	
Number of digital inputs	8; 8 (one-channel); 4 (two-channel)
Digital inputs, parameterizable	Yes
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 60 °C, max.	8
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-30 V DC to +5 V DC
• for signal "1"	15 V DC to 30 V DC
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.8 / 1.6 / 3.2 / 6.4 / 12.8 ms
Cable length	
• unshielded, max.	30 m
Digital outputs	
Number of digital outputs	3
• in groups of	3
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	10 A
Limitation of inductive shutdown voltage to	PM-switching: Typ. -26 V to (-48 V)
Controlling a digital input	No
Switching capacity of the outputs	

• on lamp load, max.	10 W
Output current	
• for signal "1" rated value	2 A
• for signal "1" permissible range, max.	2.4 A
• for signal "0" residual current, max.	0.5 mA
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	No
Switching frequency	
• with resistive load, max.	30 Hz
• with inductive load, max.	0.1 Hz
• on lamp load, max.	10 Hz
Total current of the outputs (per group)	
all mounting positions	
— up to 60 °C, max.	3.9 A
Cable length	
• unshielded, max.	30 m
Encoder	
Connectable encoders	
• 2-wire sensor	No
— permissible quiescent current (2-wire sensor), max.	0.5 mA
Interfaces	
Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1
1. Interface	
Interface types	
• integrated switch	Yes
• M12 port	Yes
Interface types	
M12 port	
• Autonegotiation	Yes
• Autocrossing	Yes
• Transmission rate, max.	100 Mbit/s
Protocols	
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
PROFIsafe	Yes
PROFINET IO Device	
Services	

— IRT with the option "high flexibility"	No; module will participate within an IRT topology
— Prioritized startup	No
Open IE communication	
• TCP/IP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
• ping	Yes
• ARP	Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes; green "ON" LED
• Wire-break in actuator cable	Yes
• Wire-break in signal transmitter cable	Yes
• Short-circuit	Yes
• Short-circuit encoder supply	Yes
• Group error	Yes; Red/yellow "SF/MT" LED
Potential separation	
between the load voltages	Yes
between load voltage and all other switching components	No
between Ethernet and electronics	Yes
Potential separation channels	
• between the channels	No
Isolation	
tested with	
• 24 V DC circuits	707 V DC (type test)
• Test voltage for interface, rms value [Vrms]	1 500 V; According to IEEE 802.3
Degree and class of protection	
IP degree of protection	IP65/67
Standards, approvals, certificates	
Suitable for safety-related tripping of standard modules	No
Highest safety class achievable in safety mode	
• Performance level according to ISO 13849-1	PLe
• SIL acc. to IEC 61508	SIL 2 (single-channel), SIL 3 (two-channel)

• SILCL according to IEC 62061	SIL 3
Probability of failure (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFDavg in accordance with SIL2	< 6.00E-04, 1oo1 evaluation
— Low demand mode: PFDavg in accordance with SIL3	< 1.00E-05, 1oo2 evaluation
— High demand/continuous mode: PFH in accordance with SIL2	< 1.00E-08 1/h, 1oo1 evaluation
— High demand/continuous mode: PFH in accordance with SIL3	< 2.00E-10 1/h, 1oo2 evaluation
Probability of failure of the digital outputs (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFDavg in accordance with SIL3	< 2.00E-05
— High demand/continuous mode: PFH in accordance with SIL3	< 7.00E-09 1/h

Ambient conditions

Ambient temperature during operation	
• min.	-25 °C
• max.	60 °C

Connection method

Design of electrical connection	Connector
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Dimensions

Width	60 mm
Height	175 mm
Depth	49 mm

Weights

Weight, approx.	940 g
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